

Amendments to the Claims:

This listing of claims replaces all prior versions, and listings, of claims in the application:

1. (CANCELLED)

2. (CURRENTLY AMENDED) The apparatus of claim 1 An apparatus for the optoelectronic detection of switch positions of a mechanically actuatable switch element, wherein the switch element is movable in switch position steps ~~in a~~ in first and second switch direction directions with each switch position step in the first and second switch direction directions corresponding to a switch position of the switch element, the apparatus further comprising:

a light source;

a first plurality of photoelectric receivers each being arranged at a distance correspondingly from each other of a switch position step in the first switch direction of the switch element;

a first shutter coupled to the movement of the switch element to move relative to the first plurality of receivers and the light source as the switch element moves in the first switch direction between switch positions;

wherein the state of one of the first plurality of receivers changes between an exposed state in which the receiver is exposed to the light source and a shaded state in which the first shutter shades the receiver from the light source when the switch element moves in the first switch direction from one switch position to an adjacent switch position;

a second plurality of receivers each being arranged at a distance correspondingly from each other of a switch position step in the second switch direction of the switch element;

a second shutter coupled to the movement of the switch element to move relative to the second plurality of receivers and the light source as the switch element moves in the second switch direction between switch positions;

wherein the state of one of the second plurality of receivers changes between an exposed state in which the receiver is exposed to the light source and a shaded state in

which the second shutter shades the receiver from the light source when the switch element moves in the second switch direction from one switch position to an adjacent switch position.

3. (CURRENTLY AMENDED) The apparatus of claim 1 claim 2 wherein the switch element is supported in a rotatable manner about an axis wherein:

the first and second plurality of receivers are located in a region of an intersection of the axis and the shutter has a curved surface.

4. (CURRENTLY AMENDED) The apparatus of claim 1 claim 2 wherein: the light source is an infrared (IR) light source and the first and second plurality of receivers are IR sensitive receivers having filters which pass IR light.

5. (CURRENTLY AMENDED) The apparatus of claim 1 claim 2 further comprising:

a binary decoding circuit for generating an output signal based on the states of the first and second plurality of receivers.

6. (CURRENTLY AMENDED) The apparatus of claim 1 claim 2 wherein: the first and second plurality of receivers form a light sensor array.

7. (CANCELLED)

8. (CURRENTLY AMENDED) The apparatus of claim 7 An apparatus for the optoelectronic detection of switch positions of a mechanically actuatable switch element, wherein the switch element is movable in switch position steps in a in first and second switch direction directions with each switch position step in the first and second switch direction directions corresponding to a switch position of the switch element, the apparatus further comprising:

a second first and second photoelectric receiver receivers;

a first plurality of light sources for exposing the first receiver to light, wherein each light source of the first plurality of light sources is arranged at a distance correspondingly from each other of a switch position step in the first switch direction of the switch element;

a second plurality of light sources for exposing the second receiver to light, wherein each light source of the second plurality of light sources is arranged at a distance correspondingly from each other of a switch position step in the second switch direction of the switch element; and

a first shutter for shading the first receiver from the first plurality of light sources; and

a second shutter for shading the second receiver from the second plurality of light sources;

wherein the first plurality of light sources and the first receiver are coupled to the switch element to move relative to the first shutter as the switch element moves in the first switch direction between switch positions;

wherein the state of one of the light sources of the first plurality of light sources changes between an exposure state in which the light source exposes the first receiver to light and a shaded state in which the first shutter shades the first receiver from the light source when the switch element moves in the first switch direction from one switch position to an adjacent switch position;

wherein the second plurality of light sources and the second receiver are coupled to the switch element to move relative to the second shutter as the switch element moves in the second switch direction between switch positions;

wherein the state of one of the light sources of the second plurality of light sources changes between an exposure state in which the light source exposes the second receiver to light and a shaded state in which the second shutter shades the second receiver from the light source when the switch element moves in the second switch direction from one switch position to an adjacent switch position.

9. (CURRENTLY AMENDED) The apparatus of ~~claim 7~~ claim 8 wherein the switch element is supported in a rotatable manner about an axis wherein:

the first and second plurality of light sources are located in a region of an intersection of the axis and the shutter has a curved surface.

10. (CURRENTLY AMENDED) The apparatus of ~~claim 7~~ claim 8 wherein: the first and second plurality of light sources are infrared (IR) light sources and the ~~receiver is an~~ first and second receivers are IR sensitive ~~receiver~~ receivers having a filter which passes IR light.

11. (CURRENTLY AMENDED) The apparatus of ~~claim 7~~ claim 8 further comprising:

a binary decoding circuit for generating an output signal based on the states of the first and second receivers.

12. (CURRENTLY AMENDED) The apparatus of claim 8 wherein: the first and second receivers form a light sensor array.

13. (CURRENTLY AMENDED) A method for use with a light source for the optoelectronic detection of switch positions of a mechanically actuatable switch element, the switch element being movable in switch position steps ~~in a~~ in first and second switch ~~direction directions~~ with each switch position step in the first and second switch directions corresponding to a switch position of the switch element, the method comprising:

arranging a first plurality of photoelectric receivers at a distance correspondingly from each other of a switch position step in the first switch direction of the switch element; and
arranging a second plurality of photoelectric receivers at a distance correspondingly from each other of a switch position step in the second switch direction of the switch element;

coupling a first shutter to the switch element to move relative to the first plurality of receivers and the light source as the switch element moves in the first switch direction between switch positions such that the state of one of the first plurality of receivers changes between an exposed state in which the receiver is exposed to the light source and a

shaded state in which the first shutter shades the receiver from the light source when the switch element moves in the first switch direction from one switch position to an adjacent switch position; and

coupling a second shutter to the switch element to move relative to the second plurality of receivers and the light source as the switch element moves in the second switch direction between switch positions such that the state of one of the second plurality of receivers changes between an exposed state in which the receiver is exposed to the light source and a shaded state in which the second shutter shades the receiver from the light source when the switch element moves in the second switch direction from one switch position to an adjacent switch position.

14. (NEW) A method for use with first and second shutters and first and second photoelectric receivers for the optoelectronic detection of switch positions of a mechanically actuatable switch element, the switch element being movable in switch position steps in first and second switch directions with each switch position step in the first and second switch directions corresponding to a switch position of the switch element, the method comprising:

arranging a first plurality of light sources at a distance correspondingly from each other of a switch position step in the first switch direction of the switch element;

arranging a second plurality of light sources at a distance correspondingly from each other of a switch position step in the second switch direction of the switch element;

coupling the first plurality of light sources and the first receiver to the switch element to move relative to the first shutter as the switch element moves in the first switch direction between switch positions such that the state of one of the light sources of the first plurality of light sources changes between an exposure state in which the light source exposes the first receiver to light and a shaded state in which the first shutter shades the first receiver from the light source when the switch element moves in the first switch direction from one switch position to an adjacent switch position; and

coupling the second plurality of light sources and the second receiver to the switch element to move relative to the second shutter as the switch element moves in the

second switch direction between switch positions such that the state of one of the light sources changes between an exposure state in which the light source exposes the second receiver to light and a shaded state in which the second shutter shades the second receiver from the light source when the switch element moves in the second switch direction from one switch position to an adjacent switch position.